



September 13, 1985

The P.A.

L-Tec Company, Inc.
(Re Union Carbide)
Middle Road
Ashtabula, Ohio 44004

Dear Concerned Party:

Ohio EPA has completed the enclosed preliminary assessment as part of our ongoing process to identify and remedy hazardous materials problems in Ohio. We are providing you with a copy of this information because of your identified owner and/or operator status.

Ohio EPA will ultimately screen (or "preliminarily assess") over 800 sites included on U.S. EPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) list of 22,000+ sites nationwide. This screening is based upon readily available information, and is used to prioritize sites for additional investigation as outlined in the National Contingency Plan. (See 40 CFR Part 300) The Unregulated Sites staff conduct additional activities based upon the priority assigned in the preliminary assessment (none, low, medium, high). A site inspection with sampling sufficient to characterize the site may follow the preliminary assessment. Actions subsequent to the site inspection - if warranted - include Superfund listing and remedial actions.

The preliminary assessments are put in our files when they are completed and sent to U.S. EPA. We are giving you this information to better enable you to address any possible inquiries from the public. We welcome any additional information or comments and ask that you contact the Unregulated Sites staff at the following offices:

Central	Columbus	614/462-6733 or 462-8934
Northeast	Twinsburg	216/425-9171
Southwest	Dayton	513/449-6357
Northwest	Bowling Green	419/352-8461
Southeast	Logan	614/385-8501

You might also wish to contact our Public Interest Center at 1-614-466-8508.

Sincerely,

Steven H. White, Chief
Division of Solid & Hazardous Waste Management

cc: NEDO

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OHIO EPA-N.E.D.O.

(d) A description and the quantity of each unmanifested hazardous waste the facility received;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) The certification signed by the owner or operator of the facility or his authorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[Comment: Small quantities of hazardous waste are excluded from regulation under this Part and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

§ 265.77 Additional reports.

In addition to submitting the annual report and unmanifested waste reports described in §§ 265.75 and 265.76, the owner or operator must also report to the Regional Administrator:

(a) Releases, fires, and explosions as specified in § 265.56(j);

(b) Ground-water contamination and monitoring data as specified in §§ 265.93 and 265.94; and

(c) Facility closure as specified in § 265.115.

Subpart F—Ground-Water Monitoring

§ 265.90 Applicability.

(a) Within one year after the effective date of these regulations, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as § 265.1 and paragraph (c) of this section provide otherwise.

(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of § 265.91, and must

comply with §§ 265.92-265.94. This ground-water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the ground-water monitoring requirements of this subpart may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of ground-water flow); and

(ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that ground-water monitoring of indicator parameters in accordance with §§ 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under § 265.93(b), he may, install, operate, and maintain an alternate ground-water monitoring system (other than the one described in §§ 265.91 and 265.92). If the owner or operator decides to use an alternate ground-water monitoring system he must:

(1) Within one year after the effective date of these regulations, submit to the Regional Administrator a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of § 265.93(d)(3), for an alternate ground-water monitoring system;

(2) Not later than one year after the effective date of these regulations, initiate the determinations specified in § 265.93(d)(4);

(3) Prepare and submit a written report in accordance with § 265.93(d)(5);

(4) Continue to make the determinations specified in § 265.93(d)(4) on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in § 265.94(b).

§ 265.91 Ground-water monitoring system.

(a) A ground-water monitoring system must be capable of yielding ground-water samples for analysis and must consist of:

(1) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield ground-water samples that are:

(i) Representative of background ground-water quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment,

landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the ground water.

§ 265.92 Sampling and analysis.

(a) The owner or operator must obtain and analyze samples from the installed ground-water monitoring system. The owner or operator must develop and follow a ground-water sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures; and
- (4) Chain of custody control.

[Comment: See "Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities," EPA-530/SW-611, August 1977 and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.]

(b) The owner or operator must determine the concentration or value of the following parameters in ground-water samples in accordance with paragraphs (c) and (d) of this section:

(1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in Appendix III.

(2) Parameters establishing ground-water quality:

(2) Report the following ground-water monitoring information to the Regional Administrator:

(i) During the first year when initial background concentrations are being established for the facility, concentrations or values of the parameters listed in § 265.92(b)(1) for each ground-water monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III.

(ii) Annually: concentrations or values of the parameters listed in § 265.92(b)(3) for each ground-water monitoring well, along with the required evaluations for these parameters under § 265.93(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with § 265.93(c)(1). During the active life of the facility, this information must be submitted as part of the annual report required under § 265.75.

(iii) As a part of the annual report required under § 265.75: results of the evaluation of ground-water surface elevations under § 265.93(f), and a description of the response to that evaluation, where applicable.

(b) If the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of § 265.93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Annually, until final closure of the facility, submit to the Regional Administrator a report containing the results of his ground-water quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This report must be submitted as part of the annual report required under § 265.75.

Subpart G—Closure and Post-Closure

§ 265.110 Applicability.

Except as § 265.1 provides otherwise:

(a) Sections 265.111-265.115 (which concern closure) apply to the owners and operators of all hazardous waste facilities; and

(b) Sections 265.117-265.120 (which concern post-closure care) apply to the owners and operators of all disposal facilities.

§ 265.111 Closure performance standard.

The owner or operator must close his facility in a manner that: (a) Minimizes the need for further maintenance, and (b) controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground water, or surface waters, or to the atmosphere.

§ 265.112 Closure plan; amendment of plan.

(a) On the effective date of these regulations, the owner or operator must have a written closure plan. He must keep this plan at the facility. This plan must identify the steps necessary to completely close the facility at any point during its intended life and at the end of its intended life. The closure plan must include, at least:

(1) A description of how and when the facility will be partially closed, if applicable, and ultimately closed. The description must identify the maximum extent of the operation which will be unclosed during the life of the facility, and how the requirements of § 265.111 and the applicable closure requirements of §§ 265.197, 265.228, 265.280, 265.310, 265.351, 265.381, and 265.404 will be met;

(2) An estimate of the maximum inventory of wastes in storage or in treatment at any given time during the life of the facility;

(3) A description of the steps needed to decontaminate facility equipment during closure; and

(4) A schedule for final closure which must include, as a minimum,

the anticipated date when wastes will no longer be received, the date when completion of final closure is anticipated, and intervening milestone dates which will allow tracking of the progress of closure. (For example, the expected date for completing treatment or disposal of waste inventory must be included, as must the planned date for removing any residual wastes from storage facilities and treatment processes.)

(b) The owner or operator may amend his closure plan at any time during the active life of the facility. (The active life of the facility is that period during which wastes are periodically received.) The owner or operator must amend his plan any time changes in operating plans or facility design affect the closure plan.

(c) The owner or operator must submit his closure plan to the Regional Administrator at least 180 days before the date he expects to begin closure. The Regional Administrator will modify, approve, or disapprove the plan within 90 days of receipt and after providing the owner or operator and the affected public (through a newspaper notice) the opportunity to submit written comments. If an owner or operator plans to begin closure within 180 days after the effective date of these regulations, he must submit the necessary plans on the effective date of these regulations.

§ 265.113 Time allowed for closure.

(a) Within 90 days after receiving the final volume of hazardous wastes, the owner or operator must treat all hazardous wastes in storage or in treatment, or remove them from the site, or dispose of them on-site, in accordance with the approved closure plan.

(b) The owner or operator must complete closure activities in accordance with the approved closure plan and within six months after receiving the final volume of wastes. The Regional Administrator may approve a longer closure period under § 265.112(c) if the owner or operator can demonstrate that: (1) The required or planned closure activities will, of necessity, take him longer than six months to complete, and (2) that he has taken all

steps to eliminate any significant threat to human health and the environment from the unclosed but inactive facility.

§ 265.114 Disposal or decontamination of equipment.

When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues.

§ 265.115 Certification of closure.

When closure is completed, the owner or operator must submit to the Regional Administrator certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

§ 265.116 [Reserved]

§ 265.117 Post-closure care and use of property; period of care.

(a) Post-closure care must consist of at least:

(1) Ground-water monitoring and reporting in accordance with the requirements of Subpart F; and

(2) Maintenance of monitoring and waste containment systems as specified in §§ 265.91, 265.223, 265.228, 265.280, and 265.310, where applicable.

(b) The Regional Administrator may require maintenance of any or all of the security requirements of § 265.14 during the post-closure period, when:

(1) Wastes may remain exposed after completion of closure; or

(2) Short term, incidental access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous waste remains after closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any containment system, or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the Regional Administrator, either in the post-closure plan or by petition, that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase

- (i) Chloride
- (ii) Iron
- (iii) Manganese
- (iv) Phenols
- (v) Sodium
- (vi) Sulfate

[Comment: These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under § 265.93(d).]

(3) Parameters used as indicators of ground-water contamination:

- (i) pH
- (ii) Specific Conductance
- (iii) Total Organic Carbon
- (iv) Total Organic Halogen

(c)(1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from up-gradient wells during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish ground-water quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate ground-water contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(c) Elevation of the ground-water surface at each monitoring well must be determined each time a sample is obtained.

§ 265.93 Preparation, evaluation, and response.

(a) Within one year after the effective date of these regulations, the owner or operator must prepare an outline of a ground-water quality assessment program. The outline must

describe a more comprehensive ground-water monitoring program (than that described in §§ 265.91 and 265.92) capable of determining:

(1) Whether hazardous waste or hazardous waste constituents have entered the ground water;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the ground water.

(b) For each indicator parameter specified in § 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with § 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see Appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c)(1) If the comparisons for the *up-gradient* wells made under paragraph (b) of this Section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with § 265.94(a)(2)(ii).

(2) If the comparisons for *down-gradient* wells made under paragraph (b) of this Section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d) (1) If the analyses performed under paragraph (c)(2) of this Section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Regional Administrator—within seven days of the date of such confirmation—that the facility may be affecting ground-water quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this Section, the owner or operator must develop and submit to the Regional Administrator a specific plan, based on the outline required under paragraph (a) of this Section and certified by a qualified geologist or geotechnical engineer, for a ground-water quality assessment program at the facility.

(3) The plan to be submitted under § 265.90(d)(1) or paragraph (d)(2) of this Section must specify:

(i) The number, location, and depth of wells;

(ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) Evaluation procedures, including any use of previously-gathered ground-water quality information; and

(iv) A schedule of implementation.

(4) The owner or operator must implement the ground-water quality assessment plan which satisfies the requirements of paragraph (d)(3) of this Section, and, at a minimum, determine:

(i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and

(ii) The concentrations of the hazardous waste or hazardous waste constituents in the ground water.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this Section as soon as technically feasible, and, within 15 days after that determination, submit to the Regional Administrator a written report containing an assessment of the ground-water quality.

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this Section, that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he may reinstate the indicator evaluation program described in § 265.92 and paragraph (b) of this Section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Regional Administrator in the report submitted under paragraph (d)(5) of this Section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he:

(i) Must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the ground-water quality assessment plan was implemented prior to final closure of the facility; or

(ii) May cease to make the determinations required under paragraph (d)(4) of this section, if the ground-water quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of this subpart, any ground-water quality assessment to satisfy the requirements of § 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with § 265.93(d)(5).

(f) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), at least annually the owner or operator must evaluate the data on ground-water surface elevations obtained under § 265.92(e) to determine whether the requirements under § 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that § 265.91(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

§ 265.94 Recordkeeping and reporting.

(a) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses required in § 265.92(c) and (d), the associated ground-water surface elevations required in § 265.92(e), and the evaluations required in § 265.93(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and